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A SYNOPSIS OF THE CALIFORNIA DEATHWATCH BEETLES OF THE GENUS ERNOBIUS THOMSON, WITH DESCRIPTIONS OF TWO NEW SPECIES WHICH ATTACK PINE CONES

(Coleoptera: Anobiidae)

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During investigations of the insects infesting the cones and seeds of pines in California, two new species of the genus *Ernobius* were collected. In order to provide names for use elsewhere, their descriptions are given below. The new species are superficially similar to *Ernobius punctulatus* (LeConte); and I am indebted to Dr. E. A. Chapin for comparing them with the LeConte syntypes in the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts. The new species can be readily identified by their descriptions and are included in the following key.

A preliminary key to the California species of *Ernobius* Thomson:

- | | | |
|------|---|-----------------------------------|
| 1 | Antennae 10-segmented..... | <i>E. trapezoideus</i> Fall |
| | Antennae 11-segmented..... | 2 |
| 2(1) | Pronotum with side serrate, maxillary palpi with last segment widest at or behind the middle..... | <i>E. marginicollis</i> (LeConte) |
| | Pronotum with sides entire, maxillary palpi with last segment widest at apex | 3 |
| 3(2) | Antennae with ninth segment distinctly shorter than the two preceding united..... | <i>E. conicola</i> Fisher |
| | Antenna with ninth segment longer than the two preceding united.... | 4 |
| 4(3) | Antennae with ninth segment never longer than three preceding united | 5 |
| | Antennae with ninth segment never shorter than three preceding united | 12 |
| 5(4) | Antennae with ninth segment equal to two preceding united..... | 6 |
| | Antennae with ninth segment longer than two preceding united..... | 7 |
| 6(5) | Antennae with ninth segment three times as long as wide..... | <i>E. punctulatus</i> (LeConte) |
| | Antennae with ninth segment four times as long as wide..... | <i>E. socialis</i> Fall |

¹ This is one of a series of studies made possible by a grant from the Gilbert M. Walker Trust.

- 21(18) Antennae with ninth segment three times as long as wide.....22
 Antennae with ninth segment four times as long as wide.....23
 22(21) Integument black, shiny.....*E. nigrans* Fall
 Elytra and head black, prothorax red-brown.....*E. collaris* Fall
 23(21) Integument brown to dull black.....*E. pallitarsis* Fall
 Integument pale brown.....*E. montanus* Fall

ERNOBIUS MARGINICOLLIS (LeConte)

This species does not properly belong in *Ernobius* since the genitalia of the male are symmetrical, unlike those of the other species included in the genus. Biological evidence also confirm this. Böving (1954), in his larval studies of the Anobiidae, also recognizes this species as something other than *Ernobius*.

ERNOBIUS DEBILIS LeConte

This species was placed in synonymy with *E. punctulatus* (LeConte) by Fall in 1905. However, there seems to be no doubt of its validity. It may be recognized easily by the characters presented in the accompanying key.

ERNOBIUS CONICOLA Fisher

Ernobius cupressi Van Dyke 1912 (*nec* Chobaut, 1899, p. 104).

Ernobius conicola Fisher, 1919.

Ernobius americanus Pic, 1934, (*n.n. pro E. cupressi* V. D. 1912, p. 140, *nec* Chobaut 1899, p. 104).

Van Dyke (1923) correctly synonymized his preoccupied *cupressi* with *Ernobius conicola* Fisher and Pic's name was unnecessarily proposed for this species.

Ernobius melanoventris Ruckes, new species

Male.—Length 2.5–4.2 mm., integument piceous above, thoracic sterna and abdomen black; pubescence of pronotum and elytra recumbent, golden. Head with front punctate, each puncture surrounded by a raised annulus; antennae black, eleven-segmented with the three terminal segments elongate; sides of segments parallel, segments five, six, seven, and eight each about as wide as nine, segments three and four narrower. Ninth segment three times as long as wide and slightly longer than seventh and eighth united; sixth and eighth segments equal; fifth and seventh segments subequal but the fifth a little longer, each longer than sixth and eighth, second, third and fourth segments subequal, the third slightly longer than second and fourth, third segment about twice as long as wide. Pronotum with punctures like those of head, sides margined, arcuate and slightly convergent toward the front. Elytra with light margin along the edge of the suture expanding to produce a light colored area at the apices. Abdomen with sixth sternite rounded at apex.

Female.—Similar to male, length, 3.2–4.8 mm., head dark, pronotum and elytra testaceous, clothed with recumbent golden hairs, thoracic sterna black, abdomen mottled brown and black. Head punctate, each puncture surrounded by a raised annulus; antennae eleven segmented with the three

terminal segments elongate and black, remaining segments brown, sides of segments narrow at base, diverging slightly, widest at apex. Ninth segment about three times as long as wide and slightly longer than seventh and eighth united, segments six and eight equal, segments five and seven subequal, the fifth a little longer than the seventh: each longer than the sixth or eighth, segment four the smallest, segments two and three a little longer than the fourth but shorter than all others, segments five, six, seven and eight each narrower than the ninth and segments three and four narrower than the fifth, sixth, seventh or eighth. Pronotum similarly punctate, sides margined, arcuate and slightly convergent toward the front. Elytra with light margin along the edge of the suture, expanding to produce a light colored area at the apices. Abdomen with a broad "U"-shaped emargination, about twice as wide as deep, at apex of sixth sternite.

Holotype male, MT. LAGUNA POST OFFICE, SAN DIEGO COUNTY, CALIFORNIA, reared from cone of *Pinus jeffreyi* (H. Ruckes, Jr., 1956), deposited in the California Academy of Sciences. Allotype female, same data as holotype. Paratypes are from Camp Ole, Cleveland National Forest, San Diego County, California, reared from cone of *Pinus jeffreyi*, (H. Ruckes, Jr., 1956), Camp Cuyamaca, San Diego County, California, reared from cone of *Pinus jeffreyi*, (H. Ruckes, Jr., 1956), Dorrington, Calaveras County, California, reared from cone of *Pinus ponderosa* (H. Ruckes, Jr., 1956). Paratypes will be deposited in the collections of The American Museum of Natural History, New York, New York, Museum of Comparative Zoology, Cambridge, Massachusetts, The U.S. National Museum, Washington, D.C., The California Academy of Sciences, San Francisco, California and the California Insect Survey, University of California, Berkeley, California.

***Ernobius pinicola* Ruckes, new species**

Male.—Length 2.8–4.5 mm. Integument brown, pronotum and elytra clothed with recumbent golden hairs. Head punctate, each puncture surrounded by a raised annulus: antennae eleven-segmented, with the three terminal segments elongate. Segment nine longer than the seventh and eighth united, about three times as long as wide. Segments six and eight equal, segments five and seven equal each longer than the sixth or eighth and about twice as long as wide. Segments two, three, and four subequal, segment three somewhat longer than the second or fourth, and as long as the sixth. Segments five, six, seven and eight as wide as segment nine, segments three and four narrower. Pronotum punctate like head, margined, sides arcuate, slightly convergent toward the front. Elytra with light margin along the edge of the suture expanding to produce a light colored area at the apices. Abdomen with a slightly bisinuate margin at apex of sixth sternite.

Female.—Length, 3.1–4.8 mm. Integument brown, pronotum and elytra clothed with recumbent golden hairs. Head and pronotum punctate, each

puncture surrounded by a raised annulus; antennae eleven-segmented with the three terminal segments elongate, segment nine longer than seventh and eighth united, about three times as long as wide, segments six and eight equal, segments five and seven subequal each longer than the sixth or eighth and each about twice as long as wide, segment four the shortest, segments two and three each equal in one length to segment six and about twice as long as wide, segments five, six, seven and eight narrower than segment nine, segments three and four narrower than following segments. Pronotum margined, with sides arcuate and slightly convergent toward the front. Elytra with light margin along the edge of the suture expanding to produce a light colored area at the apices. Abdomen with a slightly rounded emargination, about one and a half times as wide as deep, at apex of sixth sternite.

Holotype male, CAMP CUYAMACA, SAN DIEGO COUNTY, CALIFORNIA, reared from cone of *Pinus jeffreyi* (H. Ruckes, Jr., 1956), deposited in the California Academy of Sciences. Allotype female, same data as holotype. Paratypes, same data as holotype. Paratypes will be deposited in the collections of The American Museum of Natural History, New York, New York, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, The U.S. National Museum, Washington, D.C., The California Academy of Sciences, San Francisco, California, and The California Insect Survey, University of California, Berkeley, California.

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